

WHAT IS CLAIMED IS:

1                   1. A radiation protective polymeric mixture comprising over 50% by weight of  
2 radiation protective materials and less than 50% by weight of polymer, wherein said radiation  
3 protective materials include tungsten and/or barium sulfate.

1                   2. The radiation protective polymeric mixture of claim 1 wherein said polymer  
2 is selected from the group of ethyl vinyl acetate and polyethylene.

1                   3. The radiation protective polymeric mixture of claim 1 wherein said  
2 polymeric mixture comprises approximately 85% by weight of radiation protective materials  
3 and approximately 15% by weight of polymer.

1                   4. The radiation protective polymeric mixture of claim 3 wherein said  
2 radiation protective materials are approximately 75% by weight of tungsten, 20% by weight  
3 of barium sulfate and 5% by weight of bismuth.

1                   5. A radiation protective composite fabric comprising:  
2 a layer of fabric; and,  
3 a radiation protective polymeric mixture adhered or otherwise attached to said  
4 fabric, wherein said radiation protective polymeric mixture comprises a polymer and a  
5 radiation protective material selected from the group consisting of barium, barium sulfate,  
6 barium chloride, other barium compounds, tungsten, tungsten carbide, tungsten oxide, other  
7 tungsten compounds, bismuth, bismuth compounds, tantalum, tantalum compounds, titanium,  
8 titanium compounds, Diatrizoate Meglumine Inj. USP, Acetrizate Sodium, boron, boric  
9 acid, boron oxide, boron salts, other boron compounds, beryllium, beryllium compounds,  
10 Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil, Iobenzamic Acid, Iocarmic Acid,  
11 Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil, Iodoalphonic Acid, o-Iodohippurate  
12 Sodium, Iodophthalein Sodium, Iodopyracet, Ioglycamic Acid, Iohexol, Iomeglamic Acid,  
13 Iopamidol, Iopanoic Acid, Iopentol, Iophendylate, Iophenoxic Acid, Iopromide, Iopronic  
14 Acid, Iopydol, Iopydone, Iothalamic Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Iodate,  
15 Meglumine Acetrizate, Meglumine Ditrizate Methiodal Sodium, Metrizamide, Metrizoic  
16 Acid, Phenobutiodil, Phentetiothalein Sodium, Propyl iodone, Sodium Iodomethamate,  
17 Sozoiodolic Acid, Thorium Oxide and Trypanoate Sodium.

1                   6. The radiation protective fabric of claim 5 wherein said radiation protective  
2 material includes tungsten and/or barium sulfate.

1                   7. The radiation protective fabric of claim 6 wherein said polymeric mixture  
2 comprises over 50% by weight of radiation protective materials and less than 50% by weight  
3 of polymer.

1                   8. The radiation protective fabric of claim 5 wherein said polymer is selected  
2 from the group consisting of ethyl vinyl acetate and polyethylene.

1                   9. The radiation protective fabric of claim 5 wherein said radiation protective  
2 materials are approximately 75% by weight of tungsten, 20% by weight of barium sulfate and  
3 5% by weight of bismuth.

1                   10. The radiation protective fabric of claim 5 wherein said layer of fabric is  
2 selected from the group of woven and non-woven fabrics.

1                   11. The radiation protective fabric of claim 10 wherein said woven fabric is a  
2 woven cloth.

1                   12. The radiation protective fabric of claim 10 wherein said non-woven fabric  
2 layer includes flashspun polyethylene.

1                   13. A radiation protective composite fabric comprising:  
2 a layer of woven fabric;  
3 a layer of non-woven fabric; and,  
4 a radiation protective polymeric mixture interposed between said two layers of  
5 fabric, wherein said radiation protective polymeric mixture comprises more than 50% by  
6 weight of radiation protective materials including tungsten and/or barium sulfate and less  
7 than 50% by weight of polymer.

1                   14. The radiation protective fabric of claim 13 wherein said layer of woven  
2 fabric is a woven cloth and said layer of non-woven fabric includes flashspun polyethylene.

1                   15. The radiation protective composite fabric of claim 13 wherein said  
2 polymer is selected from the group of ethyl vinyl acetate and polyethylene.

1                   16. A garment constructed from the composite fabric of claim 13.

1                   17. A one piece jumpsuit garment constructed from the composite fabric of  
2 claim 13.

1                   18. A two piece pant and jacket garment constructed from the composite  
2 fabric of claim 13.

1                   19. An article capable of protecting a user against both radiation and  
2 projectile penetration hazards comprising:  
3                   a polymeric layer which is resistant to projectile penetration; and,  
4                   a radiation protective polymeric mixture adhered or otherwise attached to said  
5 projectile penetration resistant layer, wherein said radiation protective polymeric mixture  
6 comprises a polymer and a radiation protective material selected from the group consisting of  
7 barium, barium sulfate, barium chloride, other barium compounds, tungsten, tungsten  
8 carbide, tungsten oxide, other tungsten compounds, bismuth, bismuth compounds, tantalum,  
9 tantalum compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj. USP,  
10 Acetrizate Sodium, boron, boric acid, boron oxide, boron salts, other boron compounds,  
11 beryllium, beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil,  
12 Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil,  
13 Iodoalphonic Acid, o-Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet,  
14 Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol,  
15 Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic  
16 Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Ipodate, Meglumine Acetrizate, Meglumine  
17 Ditrizate Methiodal Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein  
18 Sodium, Propyl iodone, Sodium Iodomethamate, Soziodolic Acid, Thorium Oxide and  
19 Trypanoate Sodium.

1                   20. The hazard protecting article of claim 19 wherein said radiation protective  
2 material includes tungsten and/or barium sulfate.

1                   21. The hazard protecting article of claim 19 wherein the polymer in said  
2 radiation protective polymeric mixture is selected from the group consisting of ethyl vinyl  
3 acetate, polyethylene, polyurethane, polyamide, polyvinyl chloride, polyvinyl alcohol, natural  
4 latex, polypropylene and polyester.

1                   22. The hazard protecting article of claim 19 wherein said projectile  
2 penetration resistant layer is selected from the group consisting of aramid and polyethylene  
3 fabrics.

1                   23. The hazard protecting article of claim 22 wherein said projectile  
2 penetration resistant layer includes multiple layers of aramid and/or polyethylene fabrics.

1                   24. The hazard protecting article of claim 23 wherein at least some of said  
2 multiple layers of aramid and/or polyethylene fabrics are encapsulated by thermoplastic.

1                   25. The hazard protecting article of claim 19 wherein said radiation protective  
2 polymeric mixture is laminated onto said projectile penetration resistant layer.

1                   26. The hazard protecting article of claim 19 wherein said article is a bullet  
2 proof vest.

1                   27. The hazard protecting article of claim 19 wherein said article is a bomb  
2 suit.

1                   28. An article capable of protecting a user against both radiation and fire  
2 hazards comprising:

3                   a polymeric layer which is resistant to fire; and,

4                   a radiation protective polymeric mixture adhered or otherwise attached to said  
5 fire resistant layer, wherein said radiation protective polymeric mixture comprises a polymer  
6 and a radiation protective material selected from the group consisting of barium, barium  
7 sulfate, barium chloride, other barium compounds, tungsten, tungsten carbide, tungsten oxide,  
8 other tungsten compounds, bismuth, bismuth compounds, tantalum, tantalum compounds,  
9 titanium, titanium compounds, Diatrizoate Meglumine Inj. USP, Acetrizoate Sodium, boron,  
10 boric acid, boron oxide, boron salts, other boron compounds, beryllium, beryllium  
11 compounds, Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil, Iobenzamic Acid,  
12 Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil, Iodoalphonic Acid, o-  
13 Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet, Ioglycamic Acid, Iohexol,  
14 Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol, Iophendylate, Iophenoxic Acid,  
15 Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic Acid, Iotrolan, Ioversol, Ioxaglic  
16 Acid, Ioxilan, Iodate, Meglumine Acetrizoate, Meglumine Ditrizoate Methiodal Sodium,

17 Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein Sodium, Propyl iodone,  
18 Sodium Iodomethamate, Sozoiodolic Acid, Thorium Oxide and Trypanoate Sodium.

1 29. The hazard protecting article of claim 28 wherein said radiation protective  
2 material includes tungsten and/or barium sulfate.

1 30. The hazard protecting article of claim 28 wherein the polymer in said  
2 radiation protective polymeric mixture is selected from the group of ethyl vinyl acetate,  
3 polyethylene, polyurethane, polyamide, polyvinyl chloride, polyvinyl alcohol, natural latex,  
4 polypropylene and polyester.

1 31. The hazard protecting article of claim 28 wherein said fire resistant layer  
2 includes aramid fibers and/or polytetrafluoroethylene.

1 32. The hazard protecting article of claim 28 wherein said radiation protective  
2 polymeric mixture is laminated onto said fire resistant layer.

1 33. The hazard protecting article of claim 28 wherein said article is a one-  
2 piece fire protection jumpsuit.

1 34. The hazard protecting article of claim 28 wherein said article is a two  
2 piece fire protection suit.

1 35. A polymeric mixture having radiation protecting and heat dissipating  
2 properties comprising:  
3 a polymer;  
4 a heat dissipating material selected from the group consisting of silver, copper,  
5 gold, aluminum, beryllium, calcium, tungsten, magnesium, zinc, iron, nickel, carbon,  
6 molybdenum and tin; and,  
7 a radiation protective material selected from the group consisting of barium,  
8 barium sulfate, barium chloride, other barium compounds, tungsten, tungsten carbide,  
9 tungsten oxide, other tungsten compounds, bismuth, bismuth compounds, tantalum, tantalum  
10 compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj. USP, Acetrizate  
11 Sodium, boron, boric acid, boron oxide, boron salts, other boron compounds, beryllium,  
12 beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil, Iobenzamic  
13 Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil, Iodoalphonic

14 Acid, o-Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet, Ioglycamic Acid,  
15 Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol, Iophendylate, Iophenoxic  
16 Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic Acid, Iotrolan, Ioversol,  
17 Ioxaglic Acid, Ioxilan, Ipodate, Meglumine Acetrizate, Meglumine Ditrizate Methiodal  
18 Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein Sodium,  
19 Propyliodone, Sodium Iodomethamate, Soziodolic Acid, Thorium Oxide and Trypanoate  
20 Sodium

1 36. The polymeric mixture of claim 35 wherein said heat dissipating  
2 material is copper or aluminum and said radiation protective material is barium sulfate or  
3 tungsten.

1 37. The polymeric mixture of claim 35 wherein said mixture is laminated  
2 onto a woven or non-woven fabric.

1 38. An article capable of protecting a user against both projectile penetration  
2 and hazardous chemicals comprising:

3 a polymeric layer which is resistant to projectile penetration selected from the  
4 group of aramid fabrics and polyethylene fabrics; and,

5 a chemical protective layer adhered or otherwise attached to said projectile  
6 penetration resistant layer, wherein said chemical protective layer incorporates one or more  
7 polymers selected from the group of flashspun polyethylene, polypropylene, polyvinyl  
8 chloride, chlorinated polyethylene, nylon, polyurethane, aramid, polytetrafluoroethylene and  
9 neoprene.

1 39. The article of claim 38 further comprising a radiation protective layer  
2 adhered or otherwise attached to said projectile resistant and chemical protective layers  
3 wherein said radiation protective layer comprises a polymer and a radiation protective  
4 material selected from the group consisting of barium, barium sulfate, barium chloride, other  
5 barium compounds, tungsten, tungsten carbide, tungsten oxide, other tungsten compounds,  
6 bismuth, bismuth compounds, tantalum, tantalum compounds, titanium, titanium compounds,  
7 Diatrizate Meglumine Inj. USP, Acetrizate Sodium, boron, boric acid, boron oxide, boron  
8 salts, other boron compounds, beryllium, beryllium compounds, Bunamiodyl Sodium,  
9 Diatrizate Sodium, Ethiodized Oil, Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid,  
10 Iodipamide, Iodixanol, Iodized Oil, Iodoalphonic Acid, o-Iodohippurate Sodium,

11 Iodophthalein Sodium, Iodopyracet, Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol,  
12 Iopanoic Acid, Iopentol, Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol,  
13 Iopydone, Iothalamic Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Ipodate, Meglumine  
14 Acetrizate, Meglumine Ditrizate Methiodal Sodium, Metrizamide, Metrizoic Acid,  
15 Phenobutiodil, Phentetiothalein Sodium, Propylidone, Sodium Iodomethamate, Sozioiodolic  
16 Acid, Thorium Oxide and Trypanoate Sodium.

1 40. The article of claim 39 wherein the polymer in said radiation protective  
2 layer is selected from the group consisting of ethyl vinyl acetate, polyethylene, polyurethane,  
3 polyamide, polyvinyl chloride, polyvinyl alcohol, natural latex, polypropylene and polyester.

1 41. The article of claim 38 further comprising a fire resistant layer adhered or  
2 otherwise attached to said projectile resistant and chemical protective layers wherein said fire  
3 resistant layer includes aramid fibers and/or polytetrafluoroethylene.

1 42. The article of claim 38 further comprising a heat dissipating layer adhered  
2 or otherwise attached to said projectile resistant and chemical protective layers wherein said  
3 heat dissipating layer comprises a polymer and a heat dissipating material selected from the  
4 group consisting of silver, copper, gold, aluminum, beryllium, calcium, tungsten, magnesium,  
5 zinc, iron, nickel, carbon, molybdenum and tin.

1 43. A multilayer article capable of protecting a user against projectile  
2 penetration, hazardous chemicals, radiation, fire and overheating comprising:

3 a polymeric layer which is resistant to projectile penetration selected from the  
4 group of aramid fabrics and polyethylene fabrics;

5 a chemical protective layer comprising one or more polymers selected from  
6 the group consisting of flashspun polyethylene, polypropylene, polyvinyl chloride,  
7 chlorinated ethylene, nylon, polyurethane, aramid and neoprene;

8 a radiation protective layer comprising a polymer selected from the group  
9 consisting of ethyl vinyl acetate, polyethylene, polyurethane, polyamide, polyvinyl chloride,  
10 polyvinyl alcohol, natural latex, polypropylene and polyester, and a radiation protective  
11 material selected from the group consisting of barium, barium sulfate, barium chloride, other  
12 barium compounds, tungsten, tungsten carbide, tungsten oxide, other tungsten compounds,  
13 bismuth, bismuth compounds, tantalum, tantalum compounds, titanium, titanium compounds,  
14 Diatrizate Meglumine Inj. USP, Acetrizate Sodium, boron, boric acid, boron oxide, boron

15 salts, other boron compounds, beryllium, beryllium compounds, Bunamiodyl Sodium,  
16 Diatrizoate Sodium, Ethiodized Oil, Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid,  
17 Iodipamide, Iodixanol, Iodized Oil, Iodoalphonic Acid, o-Iodohippurate Sodium,  
18 Iodophthalein Sodium, Iodopyracet, Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol,  
19 Iopanoic Acid, Iopentol, Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol,  
20 Iopydone, Iothalamic Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Ipodate, Meglumine  
21 Acetrizate, Meglumine Ditrizate Methiodal Sodium, Metrizamide, Metrizoic Acid,  
22 Phenobutiodil, Phentetiothalein Sodium, Propyl iodone, Sodium Iodomethamate, Sozoiodolic  
23 Acid, Thorium Oxide and Trypanoate Sodium;  
24 a fire resistant layer comprising aramid fibers and/or polytetrafluoroethylene;  
25 and,  
26 a heat dissipating layer comprising a polymer and a heat dissipating material  
27 selected from the group consisting of silver, copper, gold, aluminum, beryllium, calcium,  
28 tungsten, magnesium, zinc, iron, nickel, carbon, molybdenum and tin.

1 44. A radiation resistant liner for a building foundation, building wall, building  
2 roof or machine comprising:  
3 a layer of fabric; and,  
4 a radiation protective polymeric mixture adhered or otherwise attached to said  
5 fabric, wherein said radiation protective polymeric mixture comprises a polymer and a  
6 radiation protective material selected from the group consisting of barium, barium sulfate,  
7 barium chloride, other barium compounds, tungsten, tungsten carbide, tungsten oxide, other  
8 tungsten compounds, bismuth, bismuth compounds, tantalum, tantalum compounds, titanium,  
9 titanium compounds, Diatrizoate Meglumine Inj. USP, Acetrizate Sodium, boron, boric  
10 acid, boron oxide, boron salts, other boron compounds, beryllium, beryllium compounds,  
11 Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil, Iobenzamic Acid, Iocarmic Acid,  
12 Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil, Iodoalphonic Acid, o-Iodohippurate  
13 Sodium, Iodophthalein Sodium, Iodopyracet, Ioglycamic Acid, Iohexol, Iomeglamic Acid,  
14 Iopamidol, Iopanoic Acid, Iopentol, Iophendylate, Iophenoxic Acid, Iopromide, Iopronic  
15 Acid, Iopydol, Iopydone, Iothalamic Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Ipodate,  
16 Meglumine Acetrizate, Meglumine Ditrizate Methiodal Sodium, Metrizamide, Metrizoic  
17 Acid, Phenobutiodil, Phentetiothalein Sodium, Propyl iodone, Sodium Iodomethamate,  
18 Sozoiodolic Acid, Thorium Oxide and Trypanoate Sodium.



1                   45.     A radiation detecting probe comprising:  
2                   a probe housing constructed, at least in part, from a polymer composite  
3 incorporating a radiation blocking material selected from the group consisting of barium,  
4 barium sulfate, barium chloride, other barium compounds, tungsten, tungsten carbide,  
5 tungsten oxide, other tungsten compounds, bismuth, bismuth compounds, tantalum, tantalum  
6 compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj. USP, Acetrizate  
7 Sodium, boron, boric acid, boron oxide, boron salts, other boron compounds, beryllium,  
8 beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil, Iobenzamic  
9 Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil, Iodoalphonic  
10 Acid, o-Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet, Ioglycamic Acid,  
11 Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol, Iophendylate, Iophenoxic  
12 Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic Acid, Iotrolan, Ioversol,  
13 Ioxaglic Acid, Ioxilan, Iodate, Meglumine Acetrizate, Meglumine Ditrizate Methiodal  
14 Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein Sodium,  
15 Propyliodone, Sodium Iodomethamate, Sozioiodolic Acid, Thorium Oxide and Trypanoate  
16 Sodium;  
17                   a window in said probe housing which transmits radiation; and  
18                   a radiation detector inside said housing to detect radiation passing through said  
19 window.

1                   46.     A method for producing a radiation protective article comprising the  
2 steps of:  
3                   mixing a radiation protective material with a polymer to create a polymeric  
4 mixture, wherein said radiation protective material is selected from the group consisting of  
5 barium, barium sulfate, barium chloride, other barium compounds, tungsten, tungsten  
6 carbide, tungsten oxide, other tungsten compounds, bismuth, bismuth compounds, tantalum,  
7 tantalum compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj. USP,  
8 Acetrizate Sodium, boron, boric acid, boron oxide, boron salts, other boron compounds,  
9 beryllium, beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil,  
10 Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil,  
11 Iodoalphonic Acid, o-Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet,  
12 Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol,  
13 Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic

14 Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Ipodate, Meglumine Acetrizoate, Meglumine  
15 Ditrizoate Methiodal Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein  
16 Sodium, Propryliodone, Sodium Iodomethamate, Sozoiodolic Acid, Thorium Oxide and  
17 Trypanoate Sodium;

18                   adhering said polymeric mixture to a fabric or other pliable material to make  
19 said fabric or other pliable material radiation protective; and,  
20                   constructing a functional article from said radiation protective fabric or other  
21 pliable material.

22                   47.     The method of claim 46 wherein said radiation protective material  
23 comprises at least 50% of said polymeric mixture by weight.

1                   48.     The method of claim 46 further comprising a plurality of said radiation  
2 protective materials in said polymeric mixture.

1                   49.     The method of claim 48 wherein said plurality of radiation protective  
2 materials includes tungsten, barium sulfate and bismuth.

1                   50.     The method of claim 46 wherein said polymeric mixture further  
2 comprises one or more additives.

1                   51.     The method of claim 50 wherein one or more of said additives are  
2 selected from the group consisting of epoxy soybean oil, ethylene glycol and propylene  
3 glycol.

4                   52.     The method of claim 46 wherein said article is a one piece jumpsuit.

1                   53.     The method of claim 46 wherein said article is a two piece jacket and  
2 pant combination.

1                   54.     The method of claim 46 wherein said article is a surgical apron.

1                   55.     The method of claim 46 wherein said polymer is selected from the  
2 group consisting of polyurethane, polyamide, polyvinyl chloride, polyvinyl alcohol, natural  
3 latex, polyethylene, polypropylene, ethylene vinyl acetate and polyester.

1                   56.     The method of claim 46 wherein said fabric or other pliable material is  
2 a non-woven polymeric fabric.

1                   57.     The method of claim 56 wherein said non-woven polymeric fabric is  
2     selected from the group consisting of polypropylene, polyethylene, polyester and rayon.

1                   58.     The method of claim 46 wherein said fabric or other pliable material is  
2     paper.

3                   59.     A method for producing an article providing protection against  
4     radiation and projectile penetration comprising the steps of:

5                         mixing a radiation protective material with a polymer to create a polymeric  
6     mixture, wherein said radiation protective material is selected from the group consisting of  
7     barium, barium sulfate, barium chloride, other barium compounds, tungsten, tungsten  
8     carbide, tungsten oxide, other tungsten compounds, bismuth, bismuth compounds, tantalum,  
9     tantalum compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj. USP,  
10    Acetrizoate Sodium, boron, boric acid, boron oxide, boron salts, other boron compounds,  
11    beryllium, beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil,  
12    Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil,  
13    Iodoalphonic Acid, o-Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet,  
14    Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol,  
15    Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic  
16    Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Iodate, Meglumine Acetrizoate, Meglumine  
17    Ditrizoate Methiodal Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein  
18    Sodium, Propryliodone, Sodium Iodomethamate, Sozoiodolic Acid, Thorium Oxide and  
19    Trypanoate Sodium;

20                   adhering said polymeric mixture to a fabric or other pliable material which is  
21     resistant to projectile penetration; and,

22                   constructing a functional article from said radiation and projectile protective  
23     fabric or other pliable material.

1                   60.     The method of claim 59 wherein said radiation protective material  
2     comprises at least 50% of said polymeric mixture by weight.

1                   61.     The method of claim 59 further comprising a plurality of said radiation  
2     protective materials in said polymeric mixture.

1                   62.     The method of claim 59 wherein said projectile penetration resistant  
2 fabric or other material includes aramid and/or polyethylene fabrics.

1                   63.     The method of claim 62 wherein said projectile penetration resistant  
2 layer includes multiple layers of aramid and/or polyethylene fabrics.

1                   64.     The method of claim 59 wherein said article is a one piece jumpsuit.

1                   65.     The method of claim 59 wherein said article is a two piece jacket and  
2 pant combination.

1                   66.     The method of claim 59 wherein said article is a bullet proof vest.

1                   67.     The method of claim 59 wherein said polymer is selected from the  
2 group consisting of polyurethane, polyamide, polyvinyl chloride, polyvinyl alcohol, natural  
3 latex, polyethylene, polypropylene, ethylene vinyl acetate and polyester.

1                   68.     A method for producing an article providing protection against  
2 radiation and fire hazards comprising the steps of:  
3                   mixing a radiation protective material with a polymer to create a polymeric  
4 mixture, wherein said radiation protective material is selected from the group consisting of  
5 barium, barium sulfate, barium chloride, other barium compounds, tungsten, tungsten  
6 carbide, tungsten oxide, other tungsten compounds, bismuth, bismuth compounds, tantalum,  
7 tantalum compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj. USP,  
8 Acetrizate Sodium, boron, boric acid, boron oxide, boron salts, other boron compounds,  
9 beryllium, beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil,  
10 Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil,  
11 Iodoalphonic Acid, o-Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet,  
12 Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol,  
13 Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic  
14 Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Iodate, Meglumine Acetrizate, Meglumine  
15 Ditrizate Methiodal Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein  
16 Sodium, Propyliodone, Sodium Iodomethamate, Sozoiodolic Acid, Thorium Oxide and  
17 Trypanoate Sodium;

adhering said polymeric mixture to a fabric or other pliable material which is resistant to fire; and,

constructing a functional article from said radiation and fire protective fabric or other pliable material

69. The method of claim 68 wherein said radiation protective material comprises at least 50% of said polymeric mixture by weight.

70. The method of claim 68 wherein said fire resistant fabric or other pliable material includes aramid fibers and/or polytetrafluoroethylene

71. The method of claim 68 wherein said article is a one piece jumpsuit..

72. The method of claim 68 wherein said article is a two piece jacket and pant combination.

73. The method of claim 68 wherein said polymer is selected from the group consisting of polyurethane, polyamide, polyvinyl chloride, polyvinyl alcohol, natural latex, polyethylene, polypropylene, ethylene vinyl acetate and polyester.

74. A method for producing an article providing protection against radiation and overheating comprising the steps of:

mixing both a radiation protective material and a heat dissipating material with a polymer to create a polymeric mixture,

wherein said radiation protective material is selected from the group consisting of barium, barium sulfate, barium chloride, other barium compounds, tungsten, tungsten carbide, tungsten oxide, other tungsten compounds, bismuth, bismuth compounds, tantalum, tantalum compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj. USP, Acetrizate Sodium, boron, boric acid, boron oxide, boron salts, other boron compounds, beryllium, beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil, Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil, Iodoalphonic Acid, o-Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet, Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol, Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Iodate, Meglumine Acetrizate, Meglumine

16     Ditrizoate Methiodal Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein  
17     Sodium, Propyl iodone, Sodium Iodomethamate, Sozoiodolic Acid, Thorium Oxide and  
18     Trypanoate Sodium and

19                 wherein said heat dissipating material is selected from the group consisting of  
20     silver, copper, gold, aluminum, beryllium, calcium, tungsten, magnesium, zinc, iron, nickel,  
21     carbon, molybdenum and tin;

22                 adhering said polymeric mixture to a fabric or other pliable material; and,  
23                 constructing a functional article from said radiation and heat dissipating fabric  
24     or other pliable material.

1                 75.     The method of claim 74 wherein said article is a one piece jumpsuit.

1                 76.     The method of claim 74 wherein said article is a two piece jacket and  
2     pant combination.

1                 77.     The method of claim 74 wherein said polymer is selected from the  
2     group consisting of polyurethane, polyamide, polyvinyl chloride, polyvinyl alcohol, natural  
3     latex, polyethylene, polypropylene, ethylene vinyl acetate and polyester.

1                 78.     A method for producing a radiation protective article comprising the  
2     steps of:

3                 mixing a radiation protective material with a polymer to create a polymeric  
4     mixture, wherein said radiation protective material is selected from the group consisting of  
5     barium, barium sulfate, barium chloride, other barium compounds, tungsten, tungsten  
6     carbide, tungsten oxide, other tungsten compounds, bismuth, bismuth compounds, tantalum,  
7     tantalum compounds, titanium, titanium compounds, Ditrizoate Meglumine Inj. USP,  
8     Acetrizoate Sodium, boron, boric acid, boron oxide, boron salts, other boron compounds,  
9     beryllium, beryllium compounds, Bunamiodyl Sodium, Ditrizoate Sodium, Ethiodized Oil,  
10    Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil,  
11    Iodoalphonic Acid, o-Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet,  
12    Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol,  
13    Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic  
14    Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Iodate, Meglumine Acetrizoate, Meglumine  
15    Ditrizoate Methiodal Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein

16 Sodium, Propyl iodide, Sodium Iodomethamate, Sodium Iodide, Thorium Oxide and  
17 Trypanoate Sodium;  
18 heating said polymeric mixture until it assumes a liquid form;  
19 applying said liquid polymeric mixture to a first sheet of fabric or other pliable  
20 material;  
21 pressing a second sheet of fabric or other pliable material together with said  
22 first sheet of fabric or other pliable material so that a layer with said polymeric mixture is  
23 interposed between said first and second sheets of fabric or other pliable material; and,  
24 constructing an article from said radiation protective fabric or other pliable  
25 material composite.

1 79. The method of claim 78 wherein said polymeric mixture is mixed and  
2 heated in one or more extruders and applied simultaneously from one of said extruders to said  
3 first and second sheets of fabric or other pliable material.

1 80. The method of claim 78 wherein said radiation protective material  
2 comprises at least 50% of said polymeric mixture by weight.

1 81. The method of claim 78 further comprising a plurality of said radiation  
2 protective materials in said polymeric mixture.

1 82. The method of claim 78 wherein one or more of said sheets of fabric or  
2 other pliable material is resistant to penetration by projectiles.

1 83. The method of claim 82 wherein said projectile penetration resistant  
2 fabric or other material includes aramid and/or polyethylene fibers.

1 84. The method of claim 78 wherein one or more of said sheets fabric or  
2 other pliable material is a fire resistant fabric.

1 85. The method of claim 84 wherein said fire resistant fabric includes  
2 aramid fibers and/or polytetrafluoroethylene.

1 86. The method of claim 78 wherein said polymeric mixture further  
2 includes a heat dissipating material selected from the group consisting of silver, copper, gold,

3 aluminum, beryllium, calcium, tungsten, magnesium, zinc, iron, nickel, carbon, molybdenum  
4 and tin

1 87. A method for producing a radiation protective film comprising the  
2 steps of:

3 mixing a radiation protective material with a polymer to create a polymeric  
4 mixture, wherein said radiation protective material is selected from the group consisting of  
5 barium, barium sulfate, barium chloride, other barium compounds, tungsten, tungsten  
6 carbide, tungsten oxide, other tungsten compounds, bismuth, bismuth compounds, tantalum,  
7 tantalum compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj. USP,  
8 Acetrizate Sodium, boron, boric acid, boron oxide, boron salts, other boron compounds,  
9 beryllium, beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil,  
10 Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil,  
11 Iodoalphonic Acid, o-Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet,  
12 Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol,  
13 Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic  
14 Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Iodate, Meglumine Acetrizate, Meglumine  
15 Ditrizate Methiodal Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein  
16 Sodium, Propylidone, Sodium Iodomethamate, Sozoiodolic Acid, Thorium Oxide and  
17 Trypanoate Sodium;

18 heating said polymeric mixture until it assumes a pliable form; and,  
19 forming said pliable polymeric mixture into a film.

1 88. The method of claim 87 wherein said polymeric mixture is mixed and  
2 heated in an extruder and then deposited on an endless conveyor.

1 89. The method of claim 87 further comprising the step of pressing said  
2 pliable polymeric mixture between calender rollers.

1 90. The method of claim 87 wherein said radiation protective material  
2 comprises at least 50% of said polymeric mixture by weight.

1 91. A method of adding radiopaque qualities to a paint comprising the  
2 steps of adding a radiation protective material to a paint and mixing,



wherein said radiation protective material is selected from the group consisting of barium, barium sulfate, barium chloride, other barium compounds, tungsten, tungsten carbide, tungsten oxide, other tungsten compounds, bismuth, bismuth compounds, tantalum, tantalum compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj. USP, Acetrizate Sodium, boron, boric acid, boron oxide, boron salts, other boron compounds, beryllium, beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil, Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil, Iodoalphonic Acid, o-Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet, Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol, Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Ipodate, Meglumine Acetrizate, Meglumine Ditrizoate Methiodal Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein Sodium, Propyl iodone, Sodium Iodomethamate, Sozoiodolic Acid, Thorium Oxide and Trypanoate Sodium.

92. A liquid polymeric mixture comprising a radiation protective material, a polymer and an additive,

wherein said radiation protective material is selected from the group consisting of barium, barium sulfate, barium chloride, other barium compounds, tungsten, tungsten carbide, tungsten oxide, other tungsten compounds, bismuth, bismuth compounds, tantalum, tantalum compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj. USP, Acetrizate Sodium, boron, boric acid, boron oxide, boron salts, other boron compounds, beryllium, beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil, Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil, Iodoalphonic Acid, o-Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet, Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol, Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Ipodate, Meglumine Acetrizate, Meglumine Ditrizoate Methiodal Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein Sodium, Propyl iodone, Sodium Iodomethamate, Sozoiodolic Acid, Thorium Oxide and Trypanoate Sodium;

wherein said polymer is selected from the group consisting of polyurethane, polyamide, polyvinyl chloride, polyvinyl alcohol, natural latex, polyethylene, polypropylene, ethylene vinyl acetate and polyester; and,

20                    wherein said additive is selected from the group consisting of epoxy soybean  
21 oil, ethylene glycol and propylene glycol.

1                    93.     A method for producing an article providing protection against  
2 multiple hazards comprising the steps of:  
3                    mixing a radiation protective material with a polymer to create a first  
4 polymeric mixture, wherein said radiation protective material is selected from the group  
5 consisting of barium, barium sulfate, barium chloride, other barium compounds, tungsten,  
6 tungsten carbide, tungsten oxide, other tungsten compounds, bismuth, bismuth compounds,  
7 tantalum, tantalum compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj.  
8 USP, Acetrizate Sodium, boron, boric acid, boron oxide, boron salts, other boron  
9 compounds, beryllium, beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium,  
10 Ethiodized Oil, Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol,  
11 Iodized Oil, Iodoalphonic Acid, o-Iodohippurate Sodium, Iodophthalein Sodium,  
12 Iodopyracet, Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid,  
13 Iopentol, Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone,  
14 Iothalamic Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Iodate, Meglumine Acetrizate,  
15 Meglumine Ditrizate Methiodal Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil,  
16 Phentetiothalein Sodium, Propylidone, Sodium Iodomethamate, Sozoiodolic Acid,  
17 Thorium Oxide and Trypanoate Sodium;  
18                    heating said first polymeric mixture until it assumes a liquid form;  
19                    applying said first liquid polymeric mixture to a sheet of fabric or other pliable  
20 material;  
21                    allowing said first liquid polymeric mixture to harden on said sheet of fabric  
22 or other pliable material;  
23                    heating a second polymeric mixture capable of providing protection against a  
24 different hazard;  
25                    applying said second polymeric mixture on top of said hardened first  
26 polymeric mixture; and,  
27                    constructing an article from said polymerized fabric or other pliable material  
28 composite.

1                    94.     The method of claim 93 wherein said second polymeric mixture  
2 provides fire resistance.

1                   95.     The method of claim 93 wherein said second polymeric mixture resists  
2     projectile penetration.

1                   96.     The method of claim 93 wherein said second polymeric mixture  
2     dissipates heat readily.

1                   97.     A method for producing an article providing protection against  
2     multiple hazards comprising the steps of:

3                   mixing a radiation protective material with a polymer to create a first  
4     polymeric mixture, wherein said radiation protective material is selected from the group  
5     consisting of barium, barium sulfate, barium chloride, other barium compounds, tungsten,  
6     tungsten carbide, tungsten oxide, other tungsten compounds, bismuth, bismuth compounds,  
7     tantalum, tantalum compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj.  
8     USP, Acetrizate Sodium, boron, boric acid, boron oxide, boron salts, other boron  
9     compounds, beryllium, beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium,  
10    Ethiodized Oil, Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol,  
11    Iodized Oil, Iodoalphionic Acid, o-Iodohippurate Sodium, Iodophthalein Sodium,  
12    Iodopyracet, Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid,  
13    Iopentol, Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone,  
14    Iothalamic Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Ipodate, Meglumine Acetrizate,  
15    Meglumine Ditrizate Methiodal Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil,  
16    Phentetiothalein Sodium, Propryliodone, Sodium Iodomethamate, Sozoiodolic Acid,  
17    Thorium Oxide and Trypanoate Sodium;

18                  heating said first polymeric mixture until it assumes a liquid form;

19                  applying said first liquid polymeric mixture to a first sheet of fabric or other  
20     pliable material;

21                  pressing a second sheet of fabric of other pliable material together with said  
22     first sheet of fabric or other pliable material so that a layer with said first polymeric mixture  
23     is interposed between said first and second sheets of fabric or other pliable material;

24                  heating a second polymeric mixture capable of providing a different hazard  
25     protection until it assumes a liquid form;

26                  applying said second polymeric mixture to a surface of either said first or  
27     second sheet of fabric or other pliable material which is free of said first polymeric mixture;  
28     and,

29 constructing an article from said radiation protective fabric or other pliable  
30 material composite.

1 98. The method of claim 97 wherein said second polymeric mixture  
2 provides fire resistance.

1 99. The method of claim 97 wherein said second polymeric mixture resists  
2 projectile penetration.

1 100. The method of claim 97 wherein said second polymeric mixture  
2 dissipates heat readily.

1 101. An article capable of protecting a user against both radiation and  
2 chemical hazards comprising:  
3 a polymeric layer which is resistant to chemical hazards; and,  
4 a radiation protective polymeric mixture adhered or otherwise attached to said  
5 chemical resistant layer, wherein said radiation protective polymeric mixture comprises a  
6 polymer and a radiation protective material selected from the group consisting of barium,  
7 barium sulfate, barium chloride, other barium compounds, tungsten, tungsten carbide,  
8 tungsten oxide, other tungsten compounds, bismuth, bismuth compounds, tantalum, tantalum  
9 compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj. USP, Acetrizate  
10 Sodium, boron, boric acid, boron oxide, boron salts, other boron compounds, beryllium,  
11 beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil, Iobenzamic  
12 Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil, Iodoalphonic  
13 Acid, o-Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet, Ioglycamic Acid,  
14 Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol, Iophendylate, Iophenoxic  
15 Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic Acid, Iotrolan, Ioversol,  
16 Ioxaglic Acid, Ioxilan, Ipodate, Meglumine Acetrizate, Meglumine Ditrizate Methiodal  
17 Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein Sodium,  
18 Propyl iodone, Sodium Iodomethamate, Sozoiodolic Acid, Thorium Oxide and Trypanoate  
19 Sodium.

1 102. The hazard protecting article of claim 101 wherein said radiation  
2 protective material includes tungsten and/or barium sulfate.

1                   103. The hazard protecting article of claim 101 wherein the polymer in said  
2 radiation protective polymeric mixture is selected from the group consisting of ethylene vinyl  
3 acetate, polyethylene, polyurethane, polyamide, polyvinyl chloride, polyvinyl alcohol, natural  
4 latex, polypropylene and polyester.

1                   104. The hazard protecting article of claim 101 wherein said chemical  
2 resistant polymeric layer is constructed, at least in part, from the group consisting of  
3 polyethylene, flashspun polyethylene, polypropylene, polyvinyl chloride, chlorinated  
4 ethylene, nylon, polyurethane, aramid and neoprene;

1                   105. The article of claim 101 wherein said article is a one piece jumpsuit.

1                   106. The article of claim 101 wherein said article is a two piece jacket and  
2 pant combination.

1                   107. A method for producing an article providing protection against  
2 radiation and chemical hazards comprising the steps of:

3                   mixing a radiation protective material with a polymer to create a polymeric  
4 mixture, wherein said radiation protective material is selected from the group consisting of  
5 barium, barium sulfate, barium chloride, other barium compounds, tungsten, tungsten  
6 carbide, tungsten oxide, other tungsten compounds, bismuth, bismuth compounds, tantalum,  
7 tantalum compounds, titanium, titanium compounds, Diatrizoate Meglumine Inj. USP,  
8 Acetrizate Sodium, boron, boric acid, boron oxide, boron salts, other boron compounds,  
9 beryllium, beryllium compounds, Bunamiodyl Sodium, Diatrizoate Sodium, Ethiodized Oil,  
10 Iobenzamic Acid, Iocarmic Acid, Iocetamic Acid, Iodipamide, Iodixanol, Iodized Oil,  
11 Iodoalphonic Acid, o-Iodohippurate Sodium, Iodophthalein Sodium, Iodopyracet,  
12 Ioglycamic Acid, Iohexol, Iomeglamic Acid, Iopamidol, Iopanoic Acid, Iopentol,  
13 Iophendylate, Iophenoxic Acid, Iopromide, Iopronic Acid, Iopydol, Iopydone, Iothalamic  
14 Acid, Iotrolan, Ioversol, Ioxaglic Acid, Ioxilan, Ipodate, Meglumine Acetrizate, Meglumine  
15 Ditrizate Methiodal Sodium, Metrizamide, Metrizoic Acid, Phenobutiodil, Phentetiothalein  
16 Sodium, Propyliodone, Sodium Iodomethamate, Sozoiodolic Acid, Thorium Oxide and  
17 Trypanoate Sodium;

18                   adhering said polymeric mixture to a fabric or other pliable material which is  
19 resistant to chemicals; and,

20                    constructing a functional article from said radiation and chemical protective  
21 fabric or other pliable material.

1                    108.    The method of claim 107 wherein said radiation protective material  
2 comprises at least 50% of said polymeric mixture by weight.

1                    109.    The method of claim 107 wherein said chemical resistant fabric or  
2 other pliable material includes, at least in part, flashspun polyethylene, polypropylene,  
3 polyvinyl chloride, chlorinated ethylene, nylon, polyurethane, aramid and/or neoprene

4                    110.    The method of claim 107 wherein said article is a one piece jumpsuit.

1                    111.    The method of claim 107 wherein said article is a two piece jacket and  
2 pant combination.

1                    112.    The method of claim 68 wherein said polymer for said polymeric  
2 mixture is selected from the group consisting of polyurethane, polyamide, polyvinyl chloride,  
3 polyvinyl alcohol, natural latex, polyethylene, polypropylene, ethylene vinyl acetate and  
4 polyester.

1                    113.    The method of claim 93 wherein said second polymeric mixture  
2 provides chemical resistance.

1                    114.    The method of claim 97 wherein said second polymeric mixture  
2 provides chemical resistance.